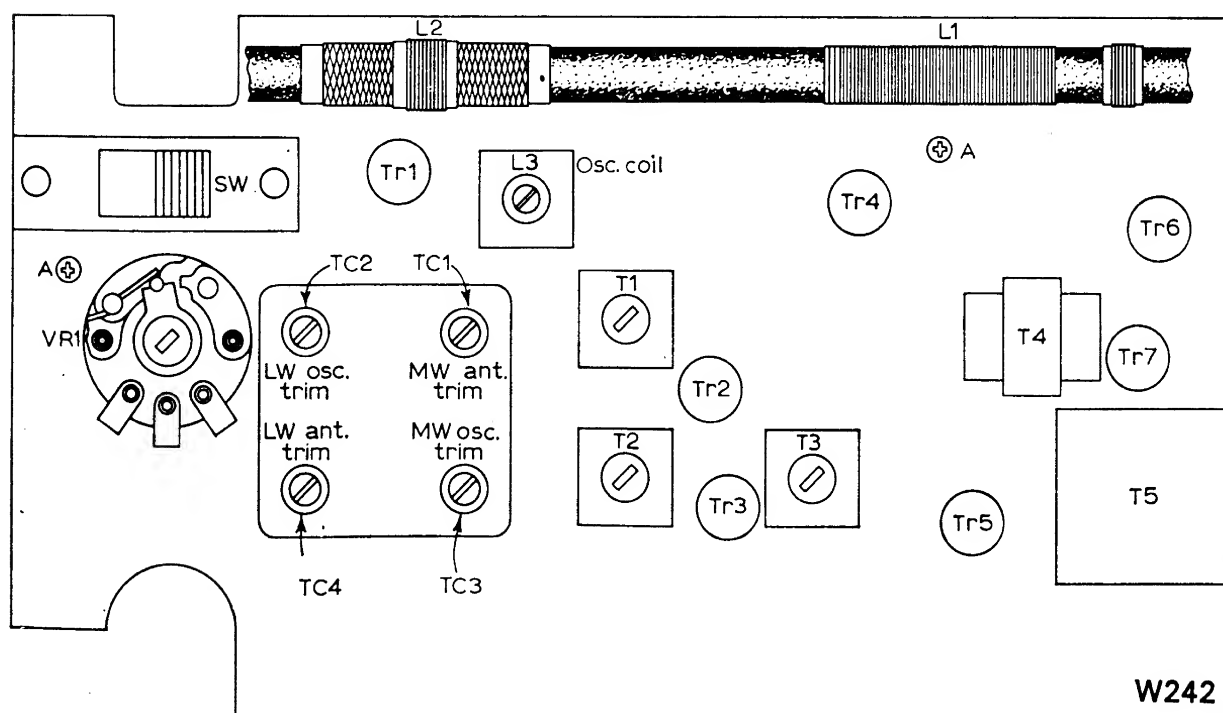


General Description: A portable transistor radio for the reception of Long and Medium Waves. A socket is fitted for an earphone of 7 ohms impedance.

Wavebands: L.W.: 1,200–2000 m; M.W.: 187–561 m.

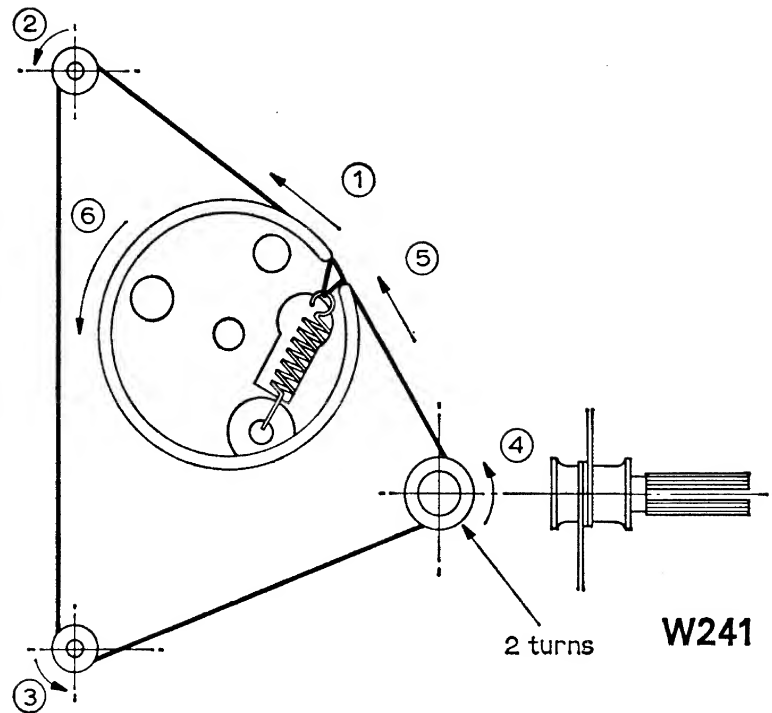
Batteries: 4.5 volts (3×1.5 volts, LPU2 or equivalent).

Loudspeaker: 7 ohms impedance.



(W242) MAIN COMPONENTS LAYOUT—MODEL 444

(W241) DRIVE CORD—MODEL 444



Dismantling

General: Unclip back cover and lift flap; this will provide access to the batteries, to the component side of the printed circuit board and to all core, trimmer and coil adjustments required for alignment purposes.

Access: For further dismantling, to obtain access to the foil side of the printed circuit board and to the drive cord system, pull off the two front control knobs, remove batteries and battery tube, remove the nut securing the tuning drive bracket to the case (located under the battery spring), then remove the two Phillips-head screws marked "A" on the top layout diagram.

The complete assembly may then be taken out to the extent of the inter-connecting leads. For better accessibility, it may be desirable to unsolder the blue battery negative lead.

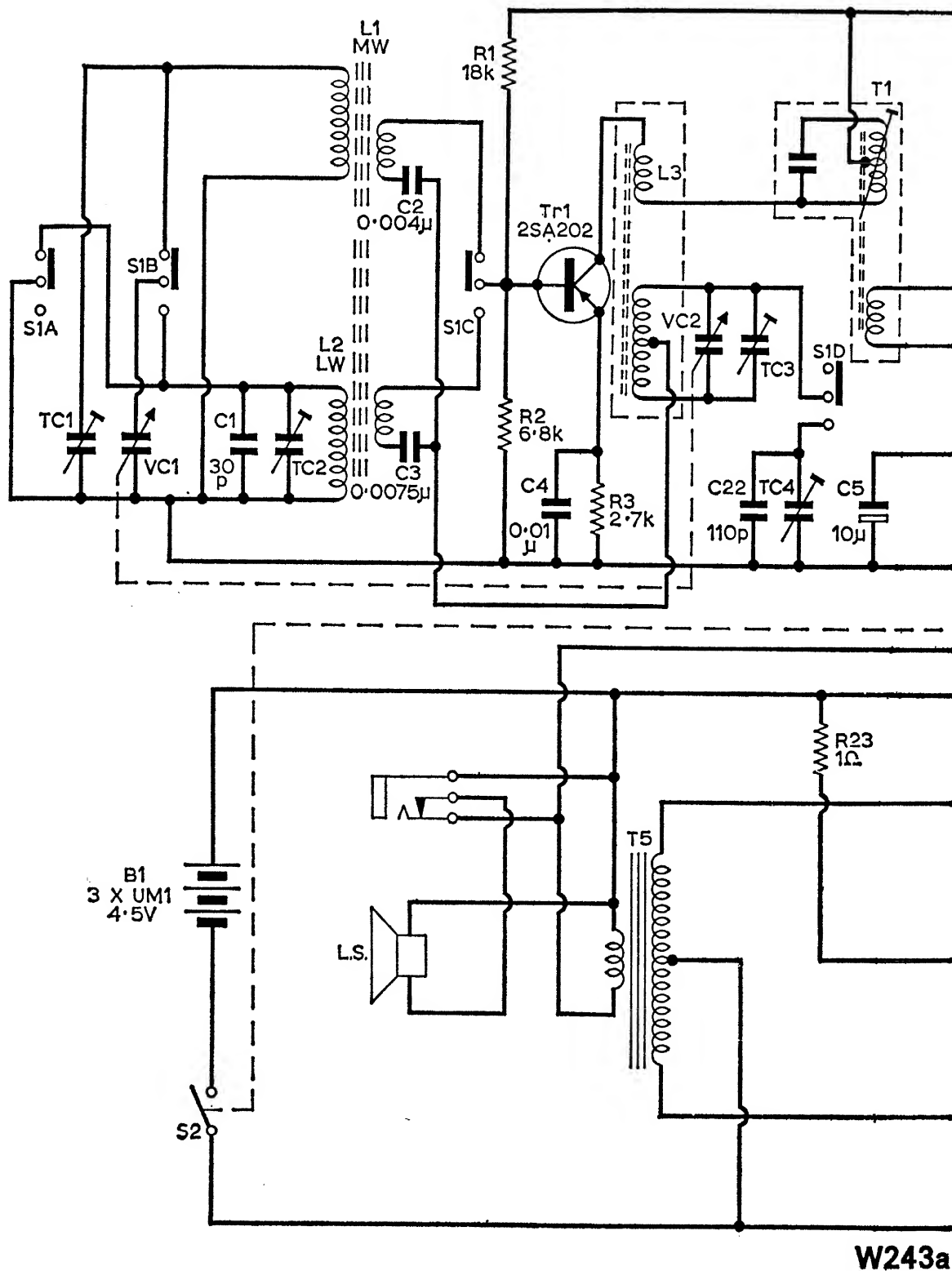
Alignment Procedures

General: Access to all cores, trimmers and coils is obtained on unclipping and folding up the back flap of the casing.

Connect output meter (7Ω impedance) across the loudspeaker terminals. Turn volume control to maximum (fully clockwise). Connect signal generator to a coupling loop placed near to, and coaxial with, the ferrite rod aerial. The output from the signal generator should be maintained at a low level to avoid A.G.C. action, which would lead to misleading readings on the output meter, and should be progressively reduced as the tuned circuits come into alignment.

Before commencing alignment, check that the tuning pointer is correctly set.

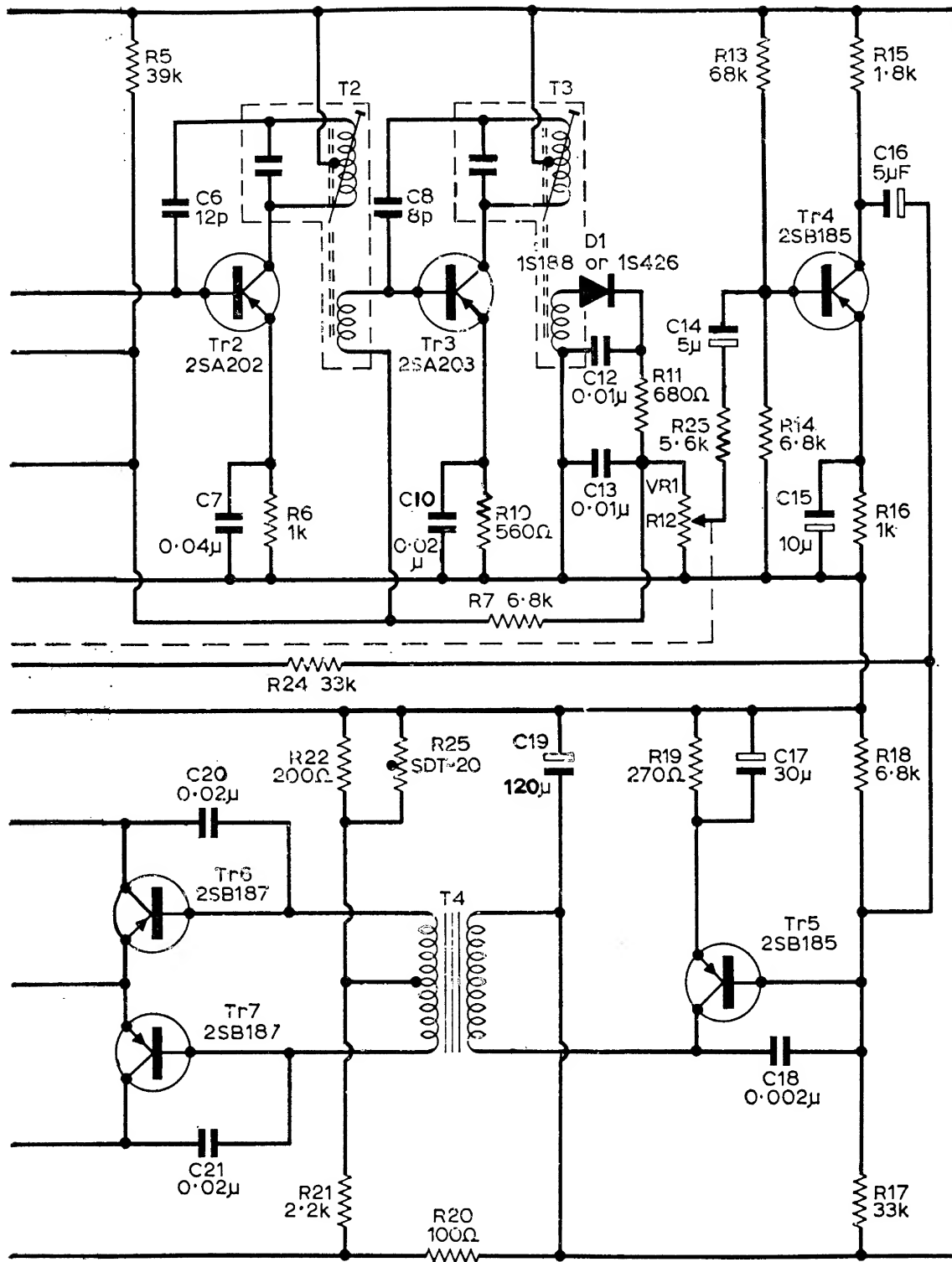
I. F. Alignment: Switch receiver to MW. Tune receiver to the low frequency end of the band. Inject into loop a signal of 470kHz and adjust the



(W243a) CIRCUIT DIAGRAM—MODEL 444 (Part)

cores of T₃, T₂ and T₁, in that sequence, for maximum output. Repeat with reduced signal input for optimum results.

R.F. Alignment: With receiver switched to MW, tune to the 550m dial marking, inject signal of 545 kHz and adjust oscillator coil L₃ for maximum output. Retune receiver to the 188m mark and the signal generator to 1600



W243b.

(W243b) CIRCUIT DIAGRAM—MODEL 444 (Continued)

kHz and adjust oscillator trimmer TC₃ for maximum output. Repeat these two steps.

Switch receiver to LW and tune to the 1,200m dial mark. Inject signal of 250kHz and adjust oscillator trimmer TC₄ for maximum output. Retune receiver to the 1,800m dial mark, inject a signal of 166.5 kHz and adjust aerial

RADIO SERVICING

trimmer TC₂ and LW aerial coil L₂, by sliding it along the ferrite rod, for maximum output. Repeat these steps.

Switch receiver to M.W. Tune to the 500m dial mark. Inject a signal of 600kHz and adjust aerial trimmer TC₁ and M.W. aerial coil L₁, by sliding it along rod, for maximum output. Repeat these steps.

Transistor Voltages

TRANSISTOR VOLTAGES			
	<i>Base</i>	<i>Emitter</i>	<i>Collector</i>
Tr ₁	3·3	3·4	0·4
Tr ₂	3·9	4·15	0·35
Tr ₃	3·95	4·2	0·3
Tr ₄	4·0	4·3	0·75
Tr ₅	3·85	4·15	0·8
Tr ₆	4·35	4·5	—
Tr ₇	4·35	4·5	—

The above voltage readings were obtained using a 20,000Ω/V test-meter, with the receiver tuned to the I.F. end of the MW band under no-signal conditions and volume control at maximum.